PeaceNet

A Computer-Based Information and Communication System

a joint proposal
submitted by:

Ark Communications Institute (ACI)
Center for Innovative Diplomacy (CID)
Community Data Processing (CdP)
Foundation for the Arts of Peace (FAP)

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What it is: PeaceNet is a computer-based communications and
     information-sharing system for groups and individuals
     working to reverse the arms race and promote peace and real
     security.   PeaceNet is explicitly designed to use existing
     computers at peace groups around the country.

How it works: With the ease of typing a letter, PeaceNet will
     enable any person with access to a personal computer, or
     computer terminal to send instantaneous messages,
     participate in public or private conferences without
     travelling, and get efficient access to a wealth of
     relevant, timely information. All this happens through a
     decentralized national network of sophisticated computers,
     simple enough for anyone with no computer experience to use.
     There will be a terminal at the ACCESS office in Washington,
     DC, so that people without access to a computer can dial a
     human (imagine!) for the information they need.

Why it's important: PeaceNet is designed to dramatically
     improve the effectiveness, response speed, and level of
     coordination of the people and organizations working for a
     safer world.   It will foster a sense of community by
     providing a common forum, enabling collaborators to have
     ongoing contact when they can't meet often enough and by
     making cooperation simpler and inescapably more productive.
     And it will greatly reduce the waste of money and effort of
     redundant information gathering through national access to
     shared databases and information resources.

Who it will serve: PeaceNet's modular, decentralized network
     design will effectively serve the broad spectrum of people
     working for peace: from large national organizations to
     local grassroots groups and active individuals.

What it will cost users: As little as possible. PeaceNet is
     designed to provided maximum service at the lowest possible
     cost.

Basic national service:
     will cost less each month than a telephone. Many local
     services will be free. Sending Overnight messages across the
     country will cost less than a telephone call, and little
     more than first class mail. Teleconferencing will be much
     cheaper than convening for real conferences. Other services
     (such as access to databases) will be self-supporting, and
     typically cost several dollars an hour, far cheaper than
     existing commercial services.

What it will cost to build: Development has been planned in a
    graduated series of phases that makes the most needed
    services available quickly, with more sophisticated
    functions added at each step. See development phases below.
    Basic services can be delivered nationally for $20,000, and
    the full system implemented for $100,000

When it will be available: With sufficient funding, a
    functional, nationally accessible electronic mail and
    conferenceing system serving 750 users could be in operation
    within two months, and a national network of distributed
    nodes within six months,

Who is developing PeaceNet: PeaceNet is a collaborative project
    of Ark Communications Institute, Center for Innovative
    Diplomacy, Community Data Processing, and Foundation for the
    Arts of Peace, four independent, not-for-profit, 501(c)(3)
    California corporations.

BACKGROUND

Just as today's business community requires high quality
information to compete, the peace movement requires timely,
accurate, and specialized information to bring about a shift in
people's thinking about security.With better information, the
peace movement can more easily prepare congressional testimony,
organize media events, mobilize voters or activists, convene
panels of experts, and conduct research.

Today, much of the information the peace movement needs already
exists but in a highly disaggregated form. Most of the nearly
6,000 "peace groups" in the country cannot afford to sift
through the millions of pages of books, articles, reports, and
newsletters generated each year. Even groups with "clearing
house" services, who have access to some of this information,
are generally incapable of searching and sorting for a particular
request quickly.

To acquire, organize, and move information quickly, the peace
movement needs an essential tool -- the computer. Many peace
organizations have, or soon will have, a simple personal computer
and a modem. With computer equipment, these groups have been
able to create "data bases" in such areas as nuclear weapons
characteristics, arms control legislation, defense policy
speakers, and available student internships in peace groups.
What remains to be created is an electronic computer network that
can enable peace groups to share their data bases with one
another and with the general public efficiently.

Besides better information, people working within the peace
movement need improved communication. National organizations
need efficient methods to get timely information to their
regional offices and activists around the country. Staff members
need to stay in touch even when there on the road, times when
staffers in the home office never know how to call a traveling
staffer. A lot of communication is needed to arrange speaking
tours. Even more communications is needed amongst wider groups
of people to coordinate national conferences or demonstrations.
People who live in different places but need to co-write position
papers or funding proposals need to be able to ship rough drafts
back and forth so they can take turns writing; for example, the
people co-writing this proposal are in three different cities
spanning the whole country! All of this can be handled by
electronic mail, the act of sending a typed to one or more
people, with the write and readers being able to read their mail
at any time and from any place.

Besides the kinds of communication discussed above, that can
sometimes be handled by phone calls, another important from of
communication is needed: group discussion. People can't get
together often enough for conferences because of the time and
expense involved, and when they do they have to choose amongst to
many conflicting sessions or the desire to talk with small groups
of their nation wide colleagues in the hallways. All too often a

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session does not last long enough for everyone to get their ideas
across; sometimes a session proves useless, and you wish you had
attended another. Sometimes side issues come up that need to be
squelched to maintain an agenda, when the wide issue could have
been more important. And people who are working on the same issue
but in different parts of the country have to renew their
emotional and professional bonds and carry out collaborative work
in the pressure cooker environment of so much going on, knowing
that they won't be able to see each other for another year. Even
for people in the same city, not everyone can make a meeting, and
you may not want to go to a meeting because only some of the
agenda is of interest. All of these situations ca be augmented
by teleconferencing. A teleconference is similar to electronic
mail in that people type in messages and read other peoples
messages, but the conferences are read by groups of people with
common interests instead of by just a mail recipient. The
conferences are organized around a general area like a physical
conference where people meet; and like a physical conference a
number of "sessions" or discussions are taking place at any one
time, with people taking turns typing a message. You can
participate in all or some of the sessions, and you can be at any
place and read the teleconference at any time; in other words,
the multiple sessions are taking place irrespective of time and
space boundaries. And, as in electronic mail, a record of
everything is kept, so you can be away for a while and catch up
later.

The key importance of teleconferencing and electronic mail is
that, as an augmentation to face to face meetings, they enable
people to be colleagues even if they work out of different
offices in different states, because it enables the ongoing
contact that allows people to collaborate in their day to day
work. And many people can be involved in discussions,
strategizing, policy definition, reactions to events, even when
such situations don't occur around the times of meetings or
regional or national conferences.

To meet these needs, we are building PeaceNet.

PeaceNet Features and Services
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-- Data Bases   -- Software Distribution
-- Conferenceing   -- Technical Support
-- Electronic Mail   -- Field Consultation
-- Opinion Polling   -- Research and Compilation
-- Action Alert Networks   -- Calendars of Events
-- Event Management Tools   -- System Wide resource directory
-- System Wide resource directory   -- System Wide user directory
-- System Wide user directory   -- Off Line Services

Sample Data Bases
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(1) Databases

Databases are clusters of data that are highly organized so that
a person can access precise parts of the data quickly. A database
is analogous to a library, where users have electronic card
catalogues and assistants to fetch information requested.
Peacenet will begin with three major peace databases.

PeaceNet will house several databases, many of which have already
been developed, but are not available to the public. For
example, we will be able to post the legislative database of the Arms
Control Computer Network. This database includes information on
every Member of Congress and the Senate, their arms control
votes, names of their key arms control staff, their ratings on
arms control and foreign policy issues by several groups, and
their prospects in the next election. A user could, for example,
sort for those Senators who have the highest ratings on arms
control AND who are up for re-election next year AND who are
vulnerable. Once available to groups throughout the nation, this
information could better target campaigns against politicians
promoting the arms race.

A second database on Peacenet will be a list of 6,000 peace
groups, which can be sorted by city, state, zip code or
Congresssional District. Thus, if a lecture was to be given in
Madison, Wisconsin on Star Wars, the peace groups in the area
could be easily alerted. Similarly, all the peace groups in a
swing Congressman's district could be alerted before a key vote.

A third database is the Committee for National Security's list of
1,000 people who speak regularly on arms and peace issues. This
database would enable groups or individuals doing public
education on the arms race to have, at their fingertips, easy
access to potential speakers. (And, of course, once the event
was scheduled, Peacenet's bulletin boards could be used for
publicity.)

As other databases are developed, Peacenet will put those on line as well. For example, the Institute for Defense and Disarmament Studies has developed a database on treaties and is developing another on nuclear weapons. And the Center for Budget and Policy Priorities is developing a database on defense spending contracts in each Congressional district.

Some others include:

CALENDAR OF EVENTS: Posting of events, meetings, demonstrations, seminars, films, trips etc.

VIDEOS, TAPES, BOOKS, NEWSPAPERS, MAGAZINES, JOURNALS, TV, RADIO,

GOVERNMENT DOCUMENTS, NEWSLETTERS: Lists of these and other resources, providing abstracts, reviews, availability, pricing, etc.

ORGANIZATIONAL RESOURCES: Listing of volunteers who are available, services that organizations may provide, employment, other information resources, (computer-based bulletin boards, etc.)

ARMS RACE UPDATES: Providing timely, concise, coherent, relevant, and clear information and analysis about the arms race.

HOTLINE: Urgent information about demonstrations, events, important legislation, military exercise (invasion), etc.

MEDIA DIRECTORY: List of key media contacts for TV, radio, newspapers, and magazines. Lists of public relations professionals who may be available

PEACE MOVEMENT MILESTONES: A perpetually growing collection of significant events and milestones in the history of the peace movement, this could include such specific information as: nuclear free zone, Freeze resolutions, civil disobedience actions, rallys, political successes, etc.

ORGANIZING WITH PEACENET

The peace movement has never had access to a comprehensive set of databases and communication facilities, so the scenarios described below are necessarily speculative. They are intended to illustrate some of the many possible integrated uses of PeaceNet.

Suppose a group in some medium-sized city wanted to put together a public education or organizing event. They defined the event in collaboration with other groups and individuals in the metropolitan region by hosting a teleconference where they discussed goals, tactics, areas of responsibility, and schedules. They could search through the speakers bureau database and get a list of willing speakers in the area (for a particular topic, if desired). Then, they would look at the calendar and see what other events in the area might be in conflict or complementary. At this point, the speaker would be contacted (perhaps by electronic mail) and the time set. To publicize the event, the organizers could post it on the calendar and in teleconferences about related issues, send electronic mail to local peace groups with accounts, and print a mailing list of all the groups in the area from an on-line list of groups. Teleconferences on the subject could be consulted to find out which topics are in currency. Finally, the organizers might want to take a look at the legislative database, get the voting records of the local Congressman and Senators, and print up a fact sheet for distribution at the event.

If a national group decided to sponsor a voter registration drive, they could search the legislative database to find vulnerable congressmembers and senators with particularly bad records; this information would be used to target areas for the drive. Then, the group would mail notices to all the peace groups in those congressional districts. A special bulletin board could be set up to identify and schedule volunteers. A teleconference would be set up on each congressmember and senator, with access restricted to those people involved in serious lobbying of the politician and those people with significant lobbying experience to provide advice and feedback on the lobbying process.

If the Federation of American Scientists was preparing a roster of expert to testify on the verifiability of an ASAT treaty, they could set up a restricted teleconference for the selected experts, so that discuss the issue before hand and post drafts of their testimony so that each could ensure that his or her testimony was not duplicating that of another, and that there were no gaps. The Groups working around the country on Alternative Security could have a teleconference to discuss the general research areas so that they could share ideas and coordinate efforts, and to post the status of their current research for feedback. Joint statements or research efforts could be circulated and built using electronic mail.

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0. **Progress To Date**

   An innovative network structure has been conceptually designed,
   and the software
   necessary to implement it has been specified. This work
   included a full inventory of commercial networking
   services and networking software. On the CdP
   machine, the electronic mail and teleconferencing
   software has been demonstrated and used by the developers
   for over a year. In addition, we have created a full-blown
   prototype of the system on a micro computer, and this will
   serve as a model for the user interface in the completed
   software. We have met with leaders of several national
   groups and secured agreements in principal to bring their
   databases on line.

1. **First National Node**

   A "common carrier" connection will be added to the CdP
   computer, making it accessible inexpensively from anywhere in the
   United States. Existing software would provide electronic mail and
   conferenceing services. Capacity of system: 750 accounts.
   Time: 1.5 months (2 people) + hardware   Cost: $ 14,000

5. **Billing System**

   Write and debug program to automatically bill users (of
   regional/national nodes) by credit card.
   Time: 2 Months (1 person) Cost: $ 4,000

3. **Software Development Environment**

   Create the software environment that will be used by programmers
   to write the actual PeaceNet software. The environment will
   consist of an existing Lisp interpreter integrated with an existing
   editor for high-productivity programming; the Lisp interpreter
   will be augmented with a number of already
   existing modules to perform specialized or resource intensive tasks,
   including modules for database, screen management, and
   information transmittal between computers. This whole package is
   being very carefully designed, incorporating input from a
   number of people, because This is essential to
   the efficient use of programming time, and to the PeaceNet
   goals of decentralization and flexibility.
   Time: 2 months (2 people)   Cost: $ 8,000
   IBM PC equivalent machine for CdP: $1,200
   Memory upgrade to CdP machine for developers: $1,000

4. **Micro Smart Terminal Interface**

   this is a programming task; the free local nodes need software.
   the software in this task is a subset of the total software that will
   make up a local or regional node (the other software is contained in
   subsequent tasks), and is thus huge but necessary.

Develop a program that runs on the user's personal computer,
and allows the user to compose and read messages and participate
in teleconferences while not
actually connected to the PeaceNet computer. This minimizes
expensive connection time, frees the PeaceNet computer to
handle many more accounts, and gives the user better simpler,
faster and better facilities. The software for this step
will be augmented by software from later steps to build
the more substantial system required to run
local, regional and national nodes.
Time: 2 months (2 people)   Cost: $ 8,000

6. PeaceNet Node Software
   This software will give the individual PeaceNet node its
   power and flexibility. It will make possible the
   microcomputer nodes. $6,000 of software work from task 1,
   and task 1 will yield
   a system that can start hosting accounts that can get us to
   income generation that much faster, besides creating a significant
   checkpoint and building a test bed for real user feedback.
   and replace the existing limited
   software on the minicomputers (ie, CdP). There are two
   components. An underlying data base will be written in the
   "C" language for speed and efficiency. The control structure
   will be in LISP, for flexibility.
   Time: 3 Months (2 people)   Cost: $ 12,000

7. PeaceNet Networking Software
   Needed to tie individual nodes together into a national
   network. This will control automatic message transmission
   and routing, and will include the nationwide directory
   system that makes PeaceNet resources universally available.
   It will combine the underlying data base with a LISP control
   structure. The network will be designed to require a minimum
   of technical maintenance by the users of a microcomputer
   node.
   Time: 3 Months (2 people)   Cost: $ 12,000

1. System Content and User Community Development separate these two?
   Coordinate with potential collaborators and database
   providers. Continue to identify and discuss needs with
   future users. Develop volunteer information entry staff. Do
   publicity and outreach as appropriate.
   Time: Ongoing   cost way too high. Cost: $ 3,000 / month

2. Financial
   Develop a financing strategy based on contributions, loans, and
   fees for services. Refine financial projections and write
   a business plan. Develop an individual and foundation donor
   base. Fundraise.
   Time: One time   Cost: $ 3,000 / month

3. Administration
   Overall coordination and administration
   Time: Ongoing   Cost: $ 1,000 / month

4. Computer Operation
   Provide technical maintenance and support to operate national node.
   Time: Ongoing   Cost: $1,000 / month

5. National Common Carrier
   Fixed monthly cost for common carrier on national node.
   Time: till account base reaches ?   Cost: $1,400 / month

6. Marketing
      ... introduce/promote system to potential users & sign 'em up...
      Time: ongoing   Cost: $x,xxx/month

7. Training & user support
       Develop documentation/training/support materials for users. Help lines
Initial training for organization members/staffs. Etc.

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PeaceNet:

    $15 to open account
    $10/month
    $6/hr (7AM-6PM M-F), $3/hr at all other times

For comparison, TCN costs:
    $20 to open account, plus $100 co-op investment
    $25/month (or as low as $15/month if purchase more than 75 accounts)
    $15/hr (daytime M-F), $11/hr at all other times

Cash Flow

Number Accts:	250	500	750	1000
PN acct open	3.8	7.5	11.3	15.0
PN monthly	2.5	5.0	7.5	10.0
Day PN connect	4.5	9.0	13.5	18.0
Day Uninet connect	-1.5	-3.0	-4.5	-6.0
Day Uninet Kchar	-2.8	-4.9	-6.4	-7.6
Night PN connect	1.9	3.8	5.7	7.6
Night Uninet connect	-0.8	-1.6	-2.4	-3.2
Night Uninet Kchar	-0.8	-1.6	-2.4	-3.2
Uninet monthly	-1.4	-1.4	-1.4	-1.4
Total monthly	$1.6K	$5.3K	$9.6	$14.2K
Total one-time	$3.8K	$7.5K	$11.3K	$15.0K

PeaceNet Development Team
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Josh Baran - Josh Baran and Associates, Josh is the projects public relations consultant.

Richard Civille - ACI, Richard has been a system design consultant and has directed the development of some communications tools currently being offered by ACI.

Gordon Feller - ARK Foundation, Gordon directs the ARK Foundation, a charitable trust set up by Don Carlson. Gordon is helping with fundraising.

Gil Friend - FAP, Gil is acting as a general project consultant and is helping with proposal writing, fundraising and marketing.

Mark Graham - FAP, Mark is identifying and collecting system resources, and the development of a user community. Mark also is closely involved in general system as well as software development

Hal Harvey - CID, Hal is one of the early systems designers and planners. He is now helping in the areas of fundrasing, user community development and project development.

Bob Howard, MD.,Ph.D., - ACI, Bob has acted has a technical has well as end-user oriented consultant and advisor to the project.

Jon Katz, M.S., - FAP, John is the technical coordinator for the development of the micro computer software and systems of PeaceNet.

Michael Kleeman, M.S., Michael is the senior communications systems consultant on the development team.

Epherm Liftken - FAP, Epherm is a volunteer software development consultant to the project. Epherm is also a communication systems expert.

Steve Lowe - CID, Steve has been working on the development of tools to survey people's communication and information needs and resources.

Corwin Nickols - CDP, Corwin is programmer and technical expert working on the system and software development.

Oliver Shank - FAP, Oliver is a volunteer assembly language programmer and a peace bulletin board sysop.

Scott Weikart, Ph.D., - CDP, Scott is the senior software developer and overall coordinator for the system and software development effort.

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Don Carlson - Consolidated Capitol, Don has been a financial
supporter of the project through his institute the ACI.
Henry Dakin - H.S.Dakin Co., Henry has been a fiscal supporter
of the project from its beginning.

CID, CdP, and FAP have all spent money from their general funds to
design peacenet, do the initial software work, and purchase the
existing hardware.

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                Messageing ("electronic mail")
        /* ----------------------------- */

New mail notification upon log-in
Mail header (date, sender, subject, etc.)
To:, CC: and BCC: (blind CC); one or many names in each category
Aliases and distribution lists; personal and group versions
Message forwarding, and replies with and without original text
    upload/download
List messages including sender, date, topic
Automatic routing of mail to other local and regional nodes
Automatic acknowledgement when message read
Automatic message if mail is undeliverable
Have conference name in To: or CC: line
Enter messages with line editor or as ASCII text block
Provide directory of users throughout system
Provide network-wide message routing/handling
Automatically transfer messages at night when
    communications costs are lowest
Interface with FIDO, UUCP networks
Maintains data base of origin, destination, date, topic,
    status for each message

                Conferenceing ("notesfile" paradigm)
        /* ----------------------------------- */

3-level hierarchy of interface: conference, base-note, response
Control of read/write/management on a user/group/everyone basis
Keyword Searching
Mail a conference message to one or more people
Same conference exists on multiple computers
Able to ignore notes you've already seen
Anonymous option
Upload/download
Manager(s) can change structure of conversation streams
Input by editor, or ASCII or protocol upload
Selection by date, topic, indexed keywords

                        DBMS
                /* ---- */

 Simple DBMS to provide user directory
 Presents directory of system resources
 Presents easy to understand menus of options
 Provide listing of keywords
 Allow limited on-line manipulation and searching of data
 Interface efficiently with database program available to users
 Indexing supports multiple keywords
 Text length is variable

Editors in mailer and conference

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Word wrap
Upload/download with error checking
Line editor for dumb terminals

        User Interface/User Aids
        /* ----------------------- */

Very few control keys needed
Consistent menu interface everywhere
Every menu has Quit, and Help for the whole menu
'?' on any menu item yields specific help

        Accounting/Billing
        /* ------------------ */

Sign-up charge

        Supervisor Functions
        /* -------------------- */

Account creation
Account close-out
User directory updates

        Other system features
        /* --------------------- */

File upload/download: programs, newsletters
Gateways to other systems
Polling, alerts are database functions
Presents simple menu structure
Provides easy text transfer between functions
Allows easy error correction
Does not trap the new user
On-line context-sensitive help files
Can be run in command mode
Remembers user login and privilege characteristics
Runs on PC/compatible with 10 MB hard disk
Available for a variety of computers
300-1200 baud modem
Modular, portable code (C language)